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Claims

Sub 7  
A 1 comprising:

5 a driver assembly capable of producing a vibrating action at a drive frequency;

a stimulator assembly operatively connected to said driver assembly such that the stimulator assembly vibrates in response to operation of the driver assembly, the stimulator assembly including a stimulator member for vibrating a  
10 salivary member, wherein the vibration of the stimulator member has a frequency and amplitude and the stimulator member is so configured and arranged as to produce a sufficient vibrational effect on the salivary member that a significant increase in the saliva production into the oral cavity  
15 results.

20 2. An apparatus of claim 1, wherein the stimulator assembly has a resonant frequency which is approximately the same as the drive frequency of the driver assembly.

3. An apparatus of claim 2, wherein the resonant frequency increases slightly when the apparatus is placed under load.

25 4. An apparatus of claim 2, wherein the drive frequency is within the range of 40 Hz to 500 Hz.

5. An apparatus of claim 1, wherein the driver assembly drives the stimulator member at a frequency which  
30 results in a random movement of tips of the stimulator member.

6. An apparatus of claim 1, when the stimulator member is made from an elastomeric material having a durometer in the range of 20-60 Shore A.

35 7. An apparatus of claim 1, wherein the stimulator member includes a base portion and a plurality of elongated fingers which extend upwardly therefrom.

8. An apparatus of claim 7, wherein the fingers are generally cylindrical, having a length within the range of 0.2-0.25 inches long and a diameter within the range of 0.06-0.25 inches.

9. An apparatus of claim 7, wherein the fingers are of equal length.

10. An apparatus of claim 7, wherein the fingers are of unequal length.

11. An apparatus of claim 1, wherein the stimulator member comprises a base portion and a single rib which extends upwardly therefrom, the single rib being having a height within the range of 0.2-0.5 inches, a length within the range of 0.2-1 inch, and a thickness within the range of 0.06-0.5 inches.

12. An apparatus of claim 1, wherein the stimulator assembly and the stimulator member have such a configuration as to be suitable only for tissue vibration outside of the oral cavity.

13. An apparatus of claim 1, wherein the salivary member is a salivary gland and vibration thereof results in a substantial increase in the production of saliva by the salivary gland.

14. An apparatus of claim 1, wherein the salivary member is a salivary duct and vibration thereof results in a substantial increase in flow of saliva through said salivary duct.

15. A method for treatment of xerostomia, comprising the steps of:

vibrating a stimulator assembly such that the tip of a stimulator member portion thereof moves at a selected drive frequency and amplitude; and

5 moving the vibrating stimulator into contact with a salivary member or tissue adjacent thereto, wherein the frequency and amplitude are such and the stimulator member is configured and arranged so as to physically vibrate the salivary member so as to produce a significant increase in saliva into the human mouth.

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16. A method of claim 15, wherein the resonant frequency of the stimulator assembly is approximately the same as the drive frequency.

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17. A method of claim 15, wherein the drive frequency is within a range of 40 Hz-500 Hz.

18. A method of claim 15, wherein the salivary member is a salivary gland and vibration thereof results in a  
20 substantial increase in the production of saliva.

19. A method of claim 15, wherein the salivary member is a salivary duct and vibration thereof results in a substantial increase in flow of saliva through said salivary  
25 duct.

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